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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,948	08/26/2002	Jun Tominaga	AB-1219 US	4705
32605	7590	06/15/2004	EXAMINER PHAN, JAMES	
MACPHERSON KWOK CHEN & HEID LLP 1762 TECHNOLOGY DRIVE, SUITE 226 SAN JOSE, CA 95110			ART UNIT 2872	PAPER NUMBER

DATE MAILED: 06/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/088,948

Applicant(s)

TOMINAGA ET AL.

Examiner

James Phan

Art Unit

2872

-- Th MAILING DATE of this communication appears on the cov r sh t with th correspondence addr ss --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 March 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1, 3-6, 19 and 20 is/are rejected.  
7) ☒ Claim(s) 2 and 7-18 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

The indicated allowability of claims 5-6 is withdrawn in view of the newly discovered reference(s) to Minamoto. Rejections based on the newly cited reference(s) follow.

#### ***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 3-6 and 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Minamoto.

In re claims 1, 3 and 4 Minamoto discloses an actuator for scanning a light beam comprising an optical element (mirror) for reflecting a light beam emitted from a light source; a movable part (plate 101) for supporting the mirror and electromagnetic coil 104; a sheet spring (102) having a fixed end coupled to a support and a movable end coupled to the movable part for supporting the movable part for a movement of the movable part along a substantially arcuate path centered about the fixed end of the sheet spring through a bending deflection of the sheet spring; and drive means (including coil 104 and magnet 107) for driving the movable part along the substantially arcuate path so as to scan the light beam. See Fig. 15 and column 3, lines 6-15

In re claim 5 a flexible circuit board including a circuit for supplying electric current to the electromagnetic coil is inherently disclosed because the ends of the electromagnetic coil are extended from the movable part through the sheet spring to the support. See Fig. 15.

In re claim 6 the sheet spring is inherently provided with a laminated structure including an electrically conductive layer serving as a circuit for supplying electric current from the support to the coil, and an electrically insulating layer for covering the coil see Fig. 15. Also, see electrically conductive layer 111 and electrically insulating layer 110 in Fig. 2B.

### ***Response to Arguments***

Applicant's arguments with respect to amended claims 1, 3 and 4 have been considered but are moot in view of the new ground(s) of rejection.

### ***Allowable Subject Matter***

Claims 2, and 7-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: None of the cited references teaches or fairly suggests (1) an actuator having a combined force of drive force generating units acts substantially onto the gravitational center of the optical element and the movable part (claim 2); (2) an actuator having a vibration control member affixed to the sheet spring at a part where a relative large strain is produced in a resonant vibration (claim 7); (3) an actuator having a plurality of sheet spring members wherein the electromagnetic force generating unit being disposed between the sheet spring members (claim 8); and (4) an actuator having a structure wherein yoke(s) extending along the arcuate path and attached to a fixed part

(claims 14 and 15). Claims 9-13 and 16-18 are dependent on the allowable claims and thus allowable at least for the same reasons.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Phan whose telephone number is (571) 272-2317. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phan, J.  
June 13, 2004

  
**James Phan**  
**Primary Examiner**